

What is claimed is:

1. An article comprising:

a layer comprising the reaction product of:

a hard polymeric component having an elongation up to about 150%;

a soft component having an elongation ranging from about 200% to about 800%
after cross-linking;

and a cross-linking agent; and

an ink on said layer.

2. The article of claim 1 wherein said layer is flexible.

3. The article of claim 1 wherein said layer is stain resistant.

4. The article of claim 1 wherein said layer exhibits enhanced surface slip.

5. The article of claim 1 wherein the Shore Hardness of the hard component is at least about 40D.

6. The article of claim 1 wherein the Shore Hardness of the hard component is at least about 70D.

7. The article of claim 1 wherein the hard component comprising a first polyurethane polymer, an acrylic polymer, polymeric polyol or mixture thereof and wherein the hard component has functionality.

8. The article of claim 1 wherein the soft component comprising a second polyurethane polymer having functionality, a polymeric polyol, or mixture thereof.

9. The article of claim 1 wherein the hard component is a polyester polyol

11. The article of claim 1 wherein the hard component and soft component are thermoplastic.

12. An article comprising:

5 a layer comprising the reaction product of:

a hard component having an elongation up to about 150%;

a soft component having an elongation ranging from about 200% to about 600% after cross-linking;

and a cross-linking agent;

10 wherein said layer is flexible, printable, and stain resistant.

13. The article of claim 12 wherein the hard component and soft component are thermoplastic.

14. An article comprising:

15 a layer comprising a composition comprising:

at least one first polymer having an elongation up to about 150%;

at least one second polymer having an elongation ranging from about 200% to about 600%; and

20 an ink on said layer.

15. The article of claim 14 wherein said layer is flexible.

16. The article of claim 14 wherein said layer is stain resistant.

25 17. The article of claim 14 wherein said layer exhibits enhanced surface slip.

18. The article of claim 14 wherein the Shore D Hardness of the first polymer is at least about 40.

20. The article of claim 14 wherein the second polymer comprises a second polyurethane polymer.

5 21. The article of claim 14 wherein the hard component and soft component are thermoplastic.

22. A article comprising:

a layer comprising a composition comprising:

10 a first polymer having an elongation up to about 150%;

a second polymer having an elongation ranging from about 200% to about 600% wherein said layer is flexible, printable, and stain resistant.

15 23. An article comprising a printable polymeric layer; wherein said polymeric layer is soluble in at least one solvent comprising acetone, methyl ethyl ketone, methyl isobutyl ketone, cyclohexanone, propylene glycol methyl ether acetate, ethyl acetate, propylene glycol methyl ether and mixtures thereof; and wherein said polymeric layer is flexible and stain resistant.

20 24. The article of claim 23 wherein the printable polymeric layer is insoluble in at least one solvent comprising ethanol, isopropanol, toluene, xylene, kerosene, gasoline, mineral spirits and mixtures thereof.

25 25. The article of claim 23 wherein said layer exhibits enhanced surface slip.

26. The article of claim 23 wherein said layer is transparent.

27. The article of claim 23 wherein said layer ranges in thickness from about 5 microns to about 125 microns.

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29. The article of claim 12 further comprising a substrate.

30. The article of claim 14 further comprising a substrate.

5 31. The article of claim 22 further comprising a substrate.

32. The article of claim 23 further comprising a substrate.

10 33. The article of claim 28 further comprising at least one bonding layer disposed between said printable polymeric layer and the substrate.

34. The article of claim 29 further comprising at least one bonding layer disposed between said ink and the substrate.

15 35. The article of claim 30 further comprising at least one bonding layer disposed between said printable layer and the substrate.

36. The article of claim 31 further comprising at least one bonding layer disposed between said ink and the substrate.

20 37. The article of claim 32 further comprising at least one bonding layer disposed between said printable layer and the substrate.

25 38. The article of claim 33 wherein the bonding layer comprises at least one colorant.

39. The article of claim 34 wherein the bonding layer comprises at least one colorant.

40. The article of claim 35 wherein the bonding layer comprises at least one colorant.

30 41. The article of claim 36 wherein the bonding layer comprises at least one colorant.

43. The article of claim 1 further comprising a color layer.

44. The article of claim 12 further comprising a color layer.

45. The article of claim 14 further comprising a color layer.

46. The article of claim 22 further comprising a color layer.

47. The article of claim 23 further comprising a color layer.

48. The article of claim 1 wherein said layer is disposed on retroreflective sheeting.

49. The article of claim 12 wherein said layer is disposed on retroreflective sheeting.

50. The article of claim 14 wherein said layer is disposed on retroreflective sheeting.

51. The article of claim 22 wherein said layer is disposed on retroreflective sheeting.

52. The article of claim 23 wherein said layer is disposed on retroreflective sheeting.

53. A composition comprising:

a hard component comprising a first thermoplastic polyurethane polymer, an acrylic polymer, a polymeric polyol or mixture thereof; the hard component having functionality and an elongation up to about 150%;

a soft component comprising at least one second thermoplastic polyurethane polymer having functionality and an elongation ranging from about 200% to about 600% after cross-linking, wherein the ratio of the hard component to soft component ranges from about 2:3 to 1:9;

and at least one isocyanate.

53. The composition of claim 53 wherein the Shore D Hardness of the hard component is at least about 70.

5 56. The composition of claim 53 wherein the weight ratio of the hard component to the soft component ranges from about 1:2 to 1:6.

57. The composition of claim 53 wherein the hard component has an elongation of less than 50%.

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58. The composition of claim 53 wherein the soft component has an elongation of greater than about 300%.

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59. The composition of claim 53 wherein the number average molecular weight of the hard component ranges from 5000 to 100,000 g/mole.

60. The composition of claim 53 wherein the hard component is a polymeric polyol having a number average molecular weight ranging from about 1000 to 10,000 g/mole.

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61. The composition of claim 53 further comprising a second soft component comprising a polymeric polyol, thermoplastic polyurethane, or mixture thereof.

62. The composition of claim 60 wherein the polymeric polyol is a polyester polyol.

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63. The composition of claim 61 wherein the polymeric polyol is a polyester polyol.

64. The composition of claim 53 further comprising a monofunctional slip additive.

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65. The composition of claim 53 wherein the slip additive is a hydroxy functional silicone